

Unfortunately, we know so little of the foot-bones of the North Island species of moa—at any rate, Hutton in his account of them gives no measurements, and makes no reference to the toe-bones—that it is not with certainty that they can be referred to any particular species; but from a comparison of the measurements given by Mr. Wilson with the foot-bones of the skeletons of *Dinornis robustus* in the Otago University Museum it seems probable that they were made by either *D. giganteus* or *D. ingens*. The toes of *D. robustus* measure from tip of middle toe to back of heel 12 in., and the stretch of inner and outer toes is 15 in.; but in the skeleton the proximal phalanx is not accurately fitted to the distal end of the tarso-metatarsus: the spread should be greater than this. But this is quite near enough to the measurements of the print to allow us to attribute them to one of the above large species of North Island moa.

I think that the members of the Manawatu Philosophical Society are to be congratulated on having so promptly had these interesting relics cut out and preserved in their museum, so that casts can be obtained of them by other museums.

ART. XXV.—*On Two New Echinoderms.*

By H. FARQUHAR.

Communicated by Mr. F. G. A. Stuckey.

[Read before the Wellington Philosophical Society, 23rd October, 1912.]

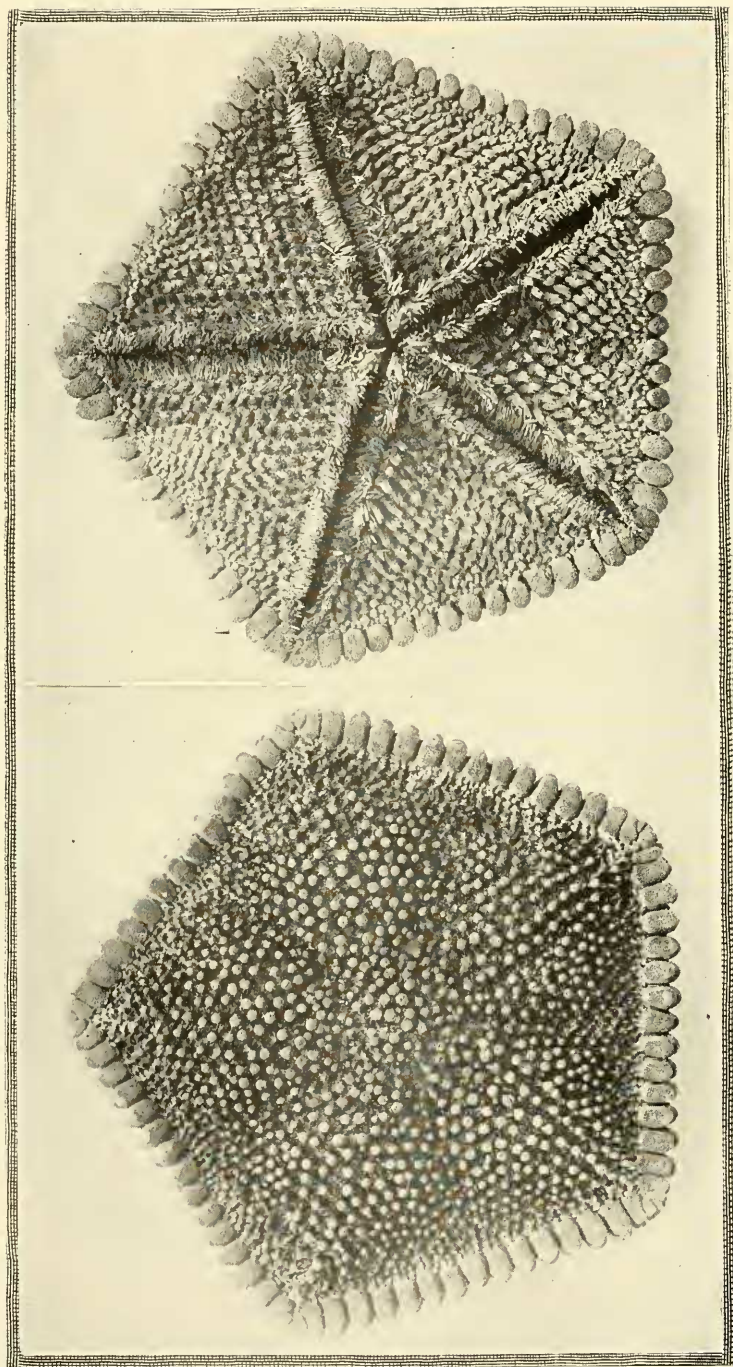
Plates III, IV.

A VERY handsome new asteroid was placed in my hands for identification by Mr. F. G. A. Stuckey, Inspector of Schools, in September, 1911. Mr. Stuckey obtained it from a fisherman, who secured it in his net while fishing at Island Bay, near Wellington. Having examined the specimen, I concluded that it was a new and distinct species of the genus *Odontaster*. As, however, much of the literature of Echinoderms is not accessible to me, I have availed myself of the kind assistance of Dr. Herbert Lyman Clark, of the Museum of Comparative Zoology at Cambridge, U.S.A., and submitted to him photographs of the specimen. He has stated that he believes it to be the type of a new genus, and he forwarded the photographs on to Dr. Fisher. Dr. Fisher also regards the species as the type of a new genus of the *Odontasteridae*, for which he has kindly suggested the name *Eurygonias*.

Dr. Koehler has recently established the new genus *Pseudontaster* in his report on the Echinoderms of the Second French Antarctic Expedition, having numerous small marginal plates. Accepting Dr. Fisher's definition of the genera,* a synopsis of the family may be made thus:—

- A¹. Two recurved hyaline spines at each mouth-angle.
 *b*¹. Marginals decreasing in size towards extremity of rays .. *Asterodon*.
 *b*². Marginals increasing in size towards extremity of rays .. *Deplodontia*.
 A². One recurved hyaline spine at each mouth-angle.
 *b*¹. Marginals prominent, well developed.
 C¹. Marginals decreasing in size towards extremity of rays *Odontaster*.
 C². Marginals increasing in size towards extremity of rays *Eurygonias*.
 *b*². Marginals very numerous, feebly developed *Pseudontaster*.

* Bulletin U.S. National Museum, No. 76, p. 153.



Oral View (reduced).

EURYGONIAS HYLACANTHUS.

Dorsal View (reduced).

Eurygonias gen. nov.

Odontasteridae with one conspicuous, recurved, hyaline, keel-shaped median spine on the suture of each pair of mouth-plates: the form is pentagonal; the marginal plates are few, large, and prominent, increasing in size towards the apex of the rays, with one unpaired plate in both series on the medial interradial line; the abactinal intermediate plates are large, angular, forming a meshwork, arranged in longitudinal rows, and bearing large paxillae crowned with spinelets; the actinal intermediate plates are slightly imbricating, bearing groups of spines.

Eurygonias hylacanthus sp. nov.

The form is pentagonal with straight sides, much depressed, somewhat inflated over the radial areas, with a distinct depression along the median interradial line.

$R = 61$ mm.; $r = 51$ mm.; $R = 1.2r$, approximately.

The supero-marginal plates are broader than long; the one on the median interradial line is triangular, with rounded angles; the 6 plates on each side of this one increase in size towards the apex of the ray, the last three being very distinctly larger than the others. Outside of these there is 1 smaller plate and 2 or 3 very much smaller ones at the apex of the ray. The marginal plates bear small, smooth, conical tubercles with minute granular papilliform spinelets between them; the outer part of each plate is without the tubercles, but with a closely packed mass or papilliform spinelets.

The sides are bare, and the sutures between the plates broad and well defined. The infero-marginal plates correspond in number, form, and armature with the supero-marginals, the only difference being that the increase in size of the plates towards the apex of the ray is somewhat more marked than in the supero-marginals. The dorsal plates are irregular in form, tumid, and angular, forming a distinct meshwork. They carry large club-shaped paxillae. In the middle of the disc these paxillae are irregularly placed. There is a single row along the median radial line, and parallel rows to this on each side, with a few much smaller ones scattered here and there between the rows. The largest are at the middle of the disc and along the median radial line, and they decrease in size towards the edge of the disc and towards the median interradial line, those on the edge of the disc being very small indeed. The paxillae are covered at the top with numerous granular papilliform spinelets, closely packed together, about 100 on the largest ones, forming large hemispherical knobs. The papular areas have 3 or 4 pores each.

The plates on the oral surface are irregular in form and size, pavement-like, somewhat angular, tumid, and imbricating. They bear a closely placed group of 7 or 8 rather long, cylindrical, granular, slightly tapering, blunt spines, with a wreath of small granular spinelets at the base; the size of the spines decreases towards the edge of the disc. There is 1 large, stout, keel-shaped, hyaline spine on each pair of oral plates, with 3 or 4 small, somewhat flattened, slightly tapering spines at the apex of the mouth-angle, a row along the edge on each side, and 2 or 3 larger ones between this row and the large median spine. The specimen is dry, and the adambulacral armature a good deal displaced, but it evidently consists of 4 or 5 rows of rather long, cylindrical, blunt spines; some of them taper somewhat, while others are flattened and chisel-shaped. The madrepori-